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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,665	05/27/2005	Rudolf Linde	3081.117US01	9835
24113 7590 01/03/2007 PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A. 4800 IDS CENTER 80 SOUTH 8TH STREET MINNEAPOLIS, MN 55402-2100			EXAMINER WONG, EDNA	
			ART UNIT 1753	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/03/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/536,665

**Applicant(s)**

LINDE ET AL.

**Examiner**

Edna Wong

**Art Unit**

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>May 27, 2005</u> . | 6) <input type="checkbox"/> Other: ____  |

### ***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Applicants' specification discloses that "the product component coated under these conditions comprises a **conventional**, glossy and uniformly structured chromium layer after treatment, cf. Fig. 1" (page 6, line 26; and page 7, lines 1-2).

### ***Specification***

- I. The abstract of the disclosure is objected to because the words "alkali ne earth" (line 9) should be amended to the words -- alkaline earth --. Correction is required. See MPEP § 608.01(b).
- II. The disclosure is objected to because of the following informalities:  
pages 1-8, -- A Brief Description of the Drawings -- is missing.

Appropriate correction is required.

***Claim Objections***

I. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The electrolyte recited in claim 17 is exactly the same as the electrolyte recited in claim 10, and is carrying out the same method as in claim 10.

Claim 17 appear to be a duplicate of claim 10 rather than further limiting.

II. Claims 10, 14 and 21 are objected to because of the following informalities:

Claim 10

line 1, the word "deposition" should be amended to the word -- depositing --.

Claim 14

line 1, the word "contains" should be amended to the word -- comprises --. See claim 10, line 1.

Claim 21

line 1, the word "having" should be amended to the word -- comprises --. See

claim 17, line 1.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

I. Claims **10-21** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for electrodeposition, does not reasonably provide enablement for electroless deposition. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

**Claim 10**

line 1, recites "deposition".

The word "deposition" reads on electroless deposition. However, Applicants' specification only has support for electrodeposition (page 2, lines 20-23). Thus, the scope of the claims is not commensurate in scope with Applicants' specification.

II. Claims **10-21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10

line 9, the alternative expression of the Markush group is improper. MPEP § 2173.05(h). The word "among" should be amended to the words -- the group consisting of --.

lines 10-11, the word "and" is used four (4) times. The scope of the Markush group is unclear.

lines 13-14, "the structures hard chrome layer" lacks antecedent basis. Is this the same as the structured hard chrome layer recited in claim 1, line 1?

Claim 15

line 1, recites the word "comprises". The method already is "comprising" in claim 1, line 1. Thus, is the limitation of "applying a current density of from 20 A/dm<sup>2</sup> to 200 A/dm<sup>2</sup> to the workpiece" further limiting the method of claim 1? If it is, then it is suggested that the word -- further -- be inserted after the word "which". If it is not, then the method has two separate, independent definitions.

Claim 17

lines 1-11, this claim does not further limit the method recited in claim 10.

The electrolyte recited in claim 17 is exactly the same as the electrolyte recited in

claim 10, and is carrying out the same method as in claim 10.

lines 1-11, this claim does not further limit the electrolyte recited in claim 10.

The electrolyte recited in claim 17 is exactly the same as the electrolyte recited in claim 10; and is carrying out the same method as in claim 10.

line 7, the alternative expression of the Markush group is improper. MPEP § 2173.05(h). The word “among” should be amended to the words -- the group consisting of --.

lines 8-9, the word “and” is used four (4) times. The scope of the Markush group is unclear.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***Product***

I. Claim **16** is rejected under 35 U.S.C. 102(b) as being anticipated by **Mull** (US Patent No. 5,415,761).

Mull teaches a structured hard chrome layer **10** (col. 5, lines 47-53; and Fig. 2).

As to the claim limitation of “obtained by the method of claim 10”, the invention defined in a product by process claim is a product, not a process. *In re Bridgeford* 679, 149 USPQ 55 (CCPA 1966). It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Wertheim* 541 F. 2d 257, 191 USPQ 90 (CCPA 1976).

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicants to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman* 489 F. 2d 742, 180 USPQ 685 (CCPA 1972) and MPEP § 2113.

II. Claim **16** is rejected under 35 U.S.C. 102(b) as being anticipated by **Mull** (US Patent No. 6,319,385 B1).

Mull teaches a structured hard chrome layer (col. 6, lines 45-53; and Figs. 3-4).

As to the claim limitation of “obtained by the method of claim 10”, the invention defined in a product by process claim is a product, not a process. *In re Bridgeford* 679, 149 USPQ 55 (CCPA 1966). It is the patentability of the product claimed and NOT of



the recited process steps which must be established. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Wertheim* 541 F. 2d 257, 191 USPQ 90 (CCPA 1976).

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicants to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman* 489 F. 2d 742, 180 USPQ 685 (CCPA 1972) and MPEP § 2113.

III. Claim **16** is rejected under 35 U.S.C. 102(b) as being anticipated by **EP 1,205,582** ('582) and **Horsthemke** (US Patent No. 6,837,981 B2).

*Horsthemke is the English equivalent of EP '582.*

Horsthemke teaches a structured hard chrome layer (col. 4, lines 35-41).

As to the claim limitation of "obtained by the method of claim 10", the invention defined in a product by process claim is a product, not a process. *In re Bridgeford* 679, 149 USPQ 55 (CCPA 1966). It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Wertheim* 541 F. 2d 257, 191 USPQ 90 (CCPA 1976).

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process

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claim, the burden is on the Applicants to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman* 489 F. 2d 742, 180 USPQ 685 (CCPA 1972) and MPEP § 2113.

**IV.** Claim **16** is rejected under 35 U.S.C. 102(b) as being anticipated by **Wilmeth et al.** (US Patent No. 5,196,108).

Wilmeth teaches a structured hard chrome layer (= an alloy chrome is produced) [col. 5, line 14].

As to the claim limitation of "obtained by the method of claim 10", the invention defined in a product by process claim is a product, not a process. *In re Bridgeford* 679, 149 USPQ 55 (CCPA 1966). It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Wertheim* 541 F. 2d 257, 191 USPQ 90 (CCPA 1976).

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicants to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman* 489 F. 2d 742, 180 USPQ 685 (CCPA 1972) and MPEP § 2113.

V. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by **DE 44 32 512 ('512)**.

DE '512 teaches a structured hard chrome layer (= structured chromium coatings) [abstract].

As to the claim limitation of "obtained by the method of claim 10", the invention defined in a product by process claim is a product, not a process. *In re Bridgeford* 679, 149 USPQ 55 (CCPA 1966). It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Wertheim* 541 F. 2d 257, 191 USPQ 90 (CCPA 1976).

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicants to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown* 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman* 489 F. 2d 742, 180 USPQ 685 (CCPA 1972) and MPEP § 2113.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*Method*

I. Claims 10-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **EP 1,205,582** ('582) and **Horsthemke** (US Patent No. 6,837,981 B2).

*Horsthemke is the English equivalent of EP '582.*

Horsthemke teaches a method of producing a structured hard chrome layer, comprising:

deposition chromium from an electrolyte onto a workpiece (col. 2, lines 13-23), said electrolyte comprising:

(a) a Cr(VI) compound in an amount corresponding to 50 g/l to 600 g/l of chromic acid anhydride (= 100 g/L to 400 g/L of chromic acid) [col. 4, lines 43-45];

(b) 0.5 g/l to 10 g/l of sulphuric acid (= 1 g/L to 6 g/L of sulfuric acid) [col. 4, lines 45-47];

(c) 1 g/l to 20 g/l of aliphatic sulphonic acid, that comprises 1 to 6 carbon atoms (= over 0.1 g/L of a short-chain aliphatic sulfonic acid) [col. 4, lines 50-57];

and

(d) 10 g/l to 200 g/l of at least one compound forming a dense cathode film (= about 1 g/L up to the limit of solubility of an isopolyanion-forming metal) [col. 4, lines 58-61], said compound being selected from among ammonium molybdate, alkali molybdate and alkaline earth molybdate, ammonium vanadate, alkali vanadate and alkaline earth vanadate, and ammonium zirconate, alkali zirconate and alkaline earth zirconate (col. 4, line 62 to col. 5, line 6), wherein the cathodic current yield in the production of the structures hard chrome layer is 12% or less (*inherent*).

The Cr(VI) compound is  $\text{CrO}_3$  (= chromic acid) [col. 4, lines 43-45].

The aliphatic sulphonic acid is methane sulphonic acid (col. 6, lines 3-4 and line 25).

The compound forming a dense cathode film is  $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24}\text{H}_2\text{O}$  (= ammonium molybdate) [col. 4, lines 62-65].

The electrolyte contains substantially no fluorides (col. 5, line 65 to col. 6, line 5; and col. 6, lines 20-26).

The method comprises applying a current density of from  $20 \text{ A/dm}^2$  to  $200 \text{ A/dm}^2$  to the workpiece (=  $20\text{-}50 \text{ A/dm}^2$ ).

II. Claims 10-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Wilmeth et al.** (US Patent No.

5,196,108).

Wilmeth teaches a method of producing a structured hard chrome layer, comprising:

deposition chromium from an electrolyte onto a workpiece (col. 1, lines 60-62), said electrolyte comprising:

(a) a Cr(VI) compound in an amount corresponding to 50 g/l to 600 g/l of chromic acid anhydride (= 250-300 g/L of chromic acid);

(b) 0.5 g/l to 10 g/l of sulphuric acid (= 2 to 4 g/L of sulfuric acid);

(c) 1 g/l to 20 g/l of aliphatic sulphonic acid, that comprises 1 to 6 carbon atoms (= 2-4 g/L of methane sulfonic acid); and

(d) 10 g/l to 200 g/l of at least one compound forming a dense cathode film, said compound being selected from among ammonium molybdate, alkali molybdate and alkaline earth molybdate, ammonium vanadate, alkali vanadate and alkaline earth vanadate, and ammonium zirconate, alkali zirconate and alkaline earth zirconate (= 25-50 g/L ammonium molybdate or other molybdenum salt producing an anion) [col. 5, lines 1-8],

wherein the cathodic current yield in the production of the structured hard chrome layer is 12% or less (*inherent*).

The Cr(VI) compound is  $\text{CrO}_3$  (= chromic acid) [col. 5, line 5].

The aliphatic sulphonic acid is methane sulphonic acid (col. 5, line 3).

The compound forming a dense cathode film is  $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24}\text{H}_2\text{O}$  (= ammonium

molybdate) [col. 5, lines 7-8].

The electrolyte contains substantially no fluorides (col. 5, lines 1-8).

The method comprises applying a current density of from 20 A/dm<sup>2</sup> to 200 A/dm<sup>2</sup> to the workpiece (= 2-6 A/in<sup>2</sup>).

III. Claims **10-12 and 14-15** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **DE 44 32 512** ('512).

DE '512 teaches a method of producing a structured hard chrome layer, comprising:

deposition chromium from an electrolyte onto a workpiece, said electrolyte comprising:

(a) a Cr(VI) compound in an amount corresponding to 50 g/l to 600 g/l of chromic acid anhydride (= 350 g/L of CrO<sub>3</sub>);

(b) 0.5 g/l to 10 g/l of sulphuric acid (= 3.85 g/L of H<sub>2</sub>SO<sub>4</sub>);

(c) 1 g/l to 20 g/l of aliphatic sulphonic acid, that comprises 1 to 6 carbon atoms (= 2.5 g/L of methane sulfonic acid); and

(d) 10 g/l to 200 g/l of at least one compound forming a dense cathode film (= 0.05 mMol to 2.5 Mol/l) ammonium molybdate or other molybdenum salt producing an anion), said compound being selected from among ammonium molybdate, alkali molybdate and alkaline earth molybdate, ammonium vanadate, alkali vanadate and alkaline earth vanadate, and ammonium zirconate, alkali

zirconate and alkaline earth zirconate (= at least one element from Li, **Na**, Se, Te, Bi or **Zr**) [abstract] (col. 3, lines 21-28),  
wherein the cathodic current yield in the production of the structures hard chrome layer is 12% or less (*inherent*).

The Cr(VI) compound is  $\text{CrO}_3$  (col. 3, line 22).

The aliphatic sulphonic acid is methane sulphonic acid (col. 3, line 22).

The electrolyte contains substantially no fluorides (col. 3, lines 21-28).

The method comprises applying a current density of from  $20 \text{ A/dm}^2$  to  $200 \text{ A/dm}^2$  to the workpiece (=  $50 \text{ A/dm}^2$ ) [col. 3, line 24].

#### *Electrolyte*

IV. Claims 17-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **EP 1,205,582** ('582) and **Horsthemke** (US Patent No. 6,837,981 B2) as applied to claims 10-15 above.

Horsthemke is as applied above and incorporated herein.

V. Claims 17-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Wilmeth et al.** (US Patent No. 5,196,108) as applied to claims 10-15 above.

Wilmeth is as applied above and incorporated herein.



**VI.** Claims **17-19 and 21** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **DE 44 32 512** ('512) as applied to claims 10-12 and 14-15 above.

DE '512 is as applied above and incorporated herein.

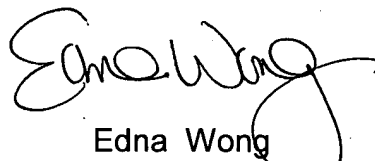
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Edna Wong  
Primary Examiner  
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EW  
December 21, 2006